List of Claims:

1. (Previously Presented) A method comprising:

retrieving a block of pixels associated with a reference block from a reference frame memory; wherein said block of pixels includes NxM pixels wherein N represents the number of pixels in each row of the reference block and wherein M represents the number of pixels in each column of the reference block; and

storing said NxM pixels in a staging memory wherein said NxM pixels are rearranged and stored in the staging memory so as to form P groups each having L pixels such that during each read access cycle all L pixels of a different one of the P groups is read from the staging memory to a temporary memory; wherein each group of L pixels corresponds to a new row or a new column of said block of pixels.

2. (Previously Presented) The method of claim 1 wherein said temporary memory is coupled to a processing unit for comparing said block of pixels to a second block of pixels.

3. (Cancelled)

4. (Original) The method of claim 2 wherein said processing unit performs a comparison for a motion estimation algorithm.

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5. (Previously Presented) The method of claim 1 wherein said staging memory comprises banks of memories, each bank providing a different one P group of pixels.

6. (Previously Presented) The method of claim 5 wherein the L pixels of each group is one of a row and column of rearranged pixels.

7. (Previously Presented) The method of claim 1 further comprising providing a search pattern that can be executed by loading said temporary memory, in a single cycle, with pixels to provide a next block to be searched.

8. (Previously Presented) The method of claim 7 wherein said search pattern is one of a spiral, horizontal and vertical search pattern.

9. (Original) The method of claim 1 wherein said rearranging of said pixels comprises reordering said pixels in each row so that each pixels from a single column are spread across a plurality of columns so that they can be accessed in parallel.

10-11. (Cancelled)

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12. (Currently Amended) An apparatus comprising:

a reference frame memory for storing ~~and supplying~~ a block of pixels associated with a reference block ~~from a reference frame memory~~; wherein said block of pixels includes NxM pixels wherein N represents the number of pixels In each row of the reference block and wherein M represents the number of pixels in each column of the reference block; and;

a staging memory for storing said NxM pixels; and

an address translator for rearranging said NxM pixels retrieved from said reference frame memory so as to form P groups each having L pixels for storing in said staging memory such that during each read access cycle all L pixels of a different one of the P groups ~~is~~ can be read from the staging memory to a temporary memory; wherein each group of L pixels corresponds to a new row or a new column of said block of pixels;

an addressing unit for providing ~~a~~ said block of pixels in parallel from said staging memory to said temporary memory.

13. (Cancelled)

14. (Previously Presented) The apparatus of claim 12 wherein said staging memory comprises a plurality of memory banks each bank providing a different one of said P groups.

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15. (Previously Presented) The apparatus of claim 12 wherein said staging memory comprises SRAM memory.

16. (Previously Presented) The apparatus of claim 12 wherein said temporary memory is a two-dimensional shift register, and wherein the L pixels in each of the P groups corresponds to a new row or column of said block of pixels.

17. (Previously Presented) The apparatus of claim12 wherein said temporary memory is coupled to a processing unit for comparing said block of pixels to a second block of pixels.

18. (Original) The apparatus of claim 17 wherein said processing unit performs a comparison for a motion estimation algorithm.

19. (Cancelled)

20. (Previously Presented) The apparatus of claim 16 further comprising:

a plurality of buffers coupled to said two dimensional shift register for buffering new rows and columns of pixels to be shifted in from the left, right, top and bottom.

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21. (New) A method comprising:

retrieving a block of pixels associated with a reference block from a reference frame memory, wherein the block of pixels includes a first plurality of rows of pixels and a second plurality of columns of pixels, wherein the block of pixels further includes a plurality of groups of pixels each having a plurality of pixels; and

storing the pixels of the block in a staging memory in a rearranged form;

wherein, according to the rearranged form, all pixels of any one of the plurality of groups of pixels can be read during a single read cycle from the staging memory to a temporary memory, wherein each group of some of the plurality of groups of pixels corresponds to a new row and each group of some other of the plurality of groups of pixels corresponds to a new column.

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